

because the contracted arches did not permit enough room for the tongue when the mouth was closed. In this case the upper arch was widened. This procedure gave plenty of room for the tongue when the mouth was closed and permitted normal nasal respiration.

Nasal stenosis in early childhood usually produces damaging results to the dental arches, which leaves considerable contraction. It is therefore necessary that orthodontic treatment should be administered at this time in order to give plenty of room for the tongue when the mouth is closed and to provide sufficient space for the normal eruption of the permanent teeth.

The benefit derived from such treatment is difficult to appreciate. It is of the greatest value and might be called preventive orthodontics.

To recapitulate, I have the following to say:

1. That nasal stenosis usually produces contracted arches of deciduous teeth.
2. That the remedying of nasal stenosis will not cure mouth-breathing if the deciduous arches are contracted.
3. That the rhinologist and orthodontist must co-operate in giving relief to nasal stenosis complicated by contracted arches.
4. That expansion of contracted deciduous arches will help to prevent the permanent teeth from erupting abnormally.
5. That the malocclusion of the teeth should be corrected during the period of tooth eruption.
6. That the prognosis of orthodontic treatment during the developmental stage is favorable.
7. That the postponing of orthodontic treatment until after the permanent teeth have erupted may then be unremediable.

MALOCCLUSION OF THE TEMPORARY TEETH.*

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IN THE dental dispensary of the Royal University of Rome, and in my private practice, I have noticed that the malocclusion of temporary teeth is far from being uncommon.

Since 1900, E. A. Bogue, of New York, has been of the opinion that "the position of the deciduous teeth affects the permanent teeth, and that therefore any irregularities in the deciduous teeth should be corrected, in order to prepare the way for the permanent teeth"**; and in 1908, he wrote, that "if irregularities are found in the deciduous teeth, irregularities of the same nature, but still more pronounced, may always be expected in the permanent teeth, which are to follow these deciduous teeth."†

The eminent Edward H. Angle, discussing a paper of Frederick L. Stanton, upon "Distal Occlusion of the Deciduous Teeth"‡ repeated, what

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**"Theories Made Facts," The Journal of the Allied Societies, October, 1906.

†"Some Results from Orthodontia on the Deciduous Teeth," Journal of the American Medical Association, January 25, 1908, Vol. I, pp. 267-269.

‡The American Orthodontist, October, 1910.

he has often written, that for treatment of malocclusion "the early age is the golden age." The greatest point in all our work is to set nature working rightly as early as possible. Who can doubt the mandible will be more normally developed and the face better balanced if taken early instead of waiting until eight or ten years of age?

Few members of the dental profession still believe that it is useless or dangerous to correct temporary teeth in malocclusion, because their movement cannot bring in the right position the germs of the permanent teeth and might also injure them; but the majority, if not all, of the orthodontists, I am sure, will agree with me in stating that:

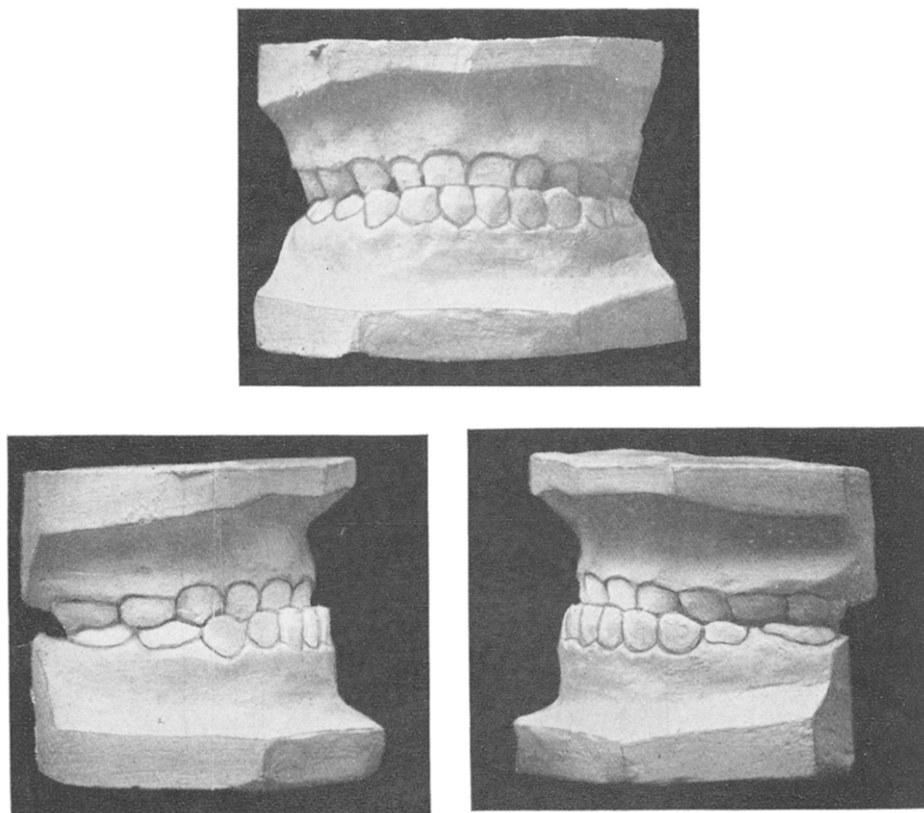


Fig. 1.—L. C., age five years. Class I, with lingual occlusion of the upper front teeth and lingual occlusion of the upper left posterior teeth.

1. Almost all of the irregularities known in the occlusion of the permanent teeth could be found also in the temporary ones.

2. To the malocclusion of temporary teeth necessarily follows the same, but more pronounced, malocclusion of permanent teeth (Fig. 9).

3. The earliest correction of the malocclusion of temporary teeth is the best practice.

I thought it would be of some interest to submit for discussion of the European Orthodontia Society a study upon the important subject of malocclusion of temporary teeth by reporting how and what I found in my researches in order to answer these three questions:

1. If the three classes of malocclusion of the permanent teeth with their divisions and subdivisions are really all found in the temporary teeth.

2. The percentage of malocclusion in temporary teeth of some of the children belonging to Rome, the capital of the land, the citizens of which are thought to have beautiful, sound and regular teeth.

3 The percentage of each of the three classes of malocclusion of the temporary teeth of a certain number of children.

I started examining the teeth of the children between three and six years of age in the Children's Hospital of the "Holy Child" in Rome; they were 160.

By this first examination I learnt that the easiest way of examining is

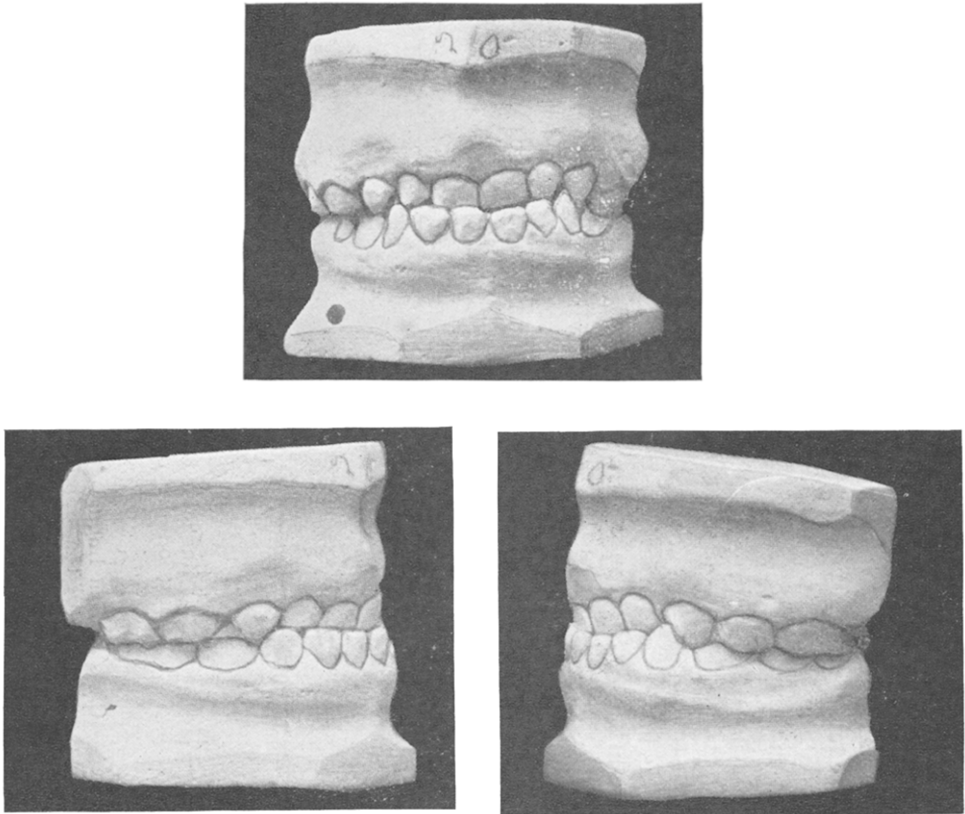


Fig. 2.—A. C. B., age five years. Class I with lingual occlusion of the upper anterior teeth.

to look at the mouths of the children without instruments, asking them to open the mouth, taking note of what is important and helping them to close the teeth in their right occlusion; then gently removing the lips for examination of the occlusion.

I could have continued my work by examining other children's hospitals of Rome, but I was lucky enough to have the permission of the Lord Mayor of Rome to examine without instruments the teeth of the children of the kindergartens, which gave me a very large supply of material. The numerous children of the municipal Roman kindergartens are divided into three classes; in the first class are children from 3 to 4 years old; in the second

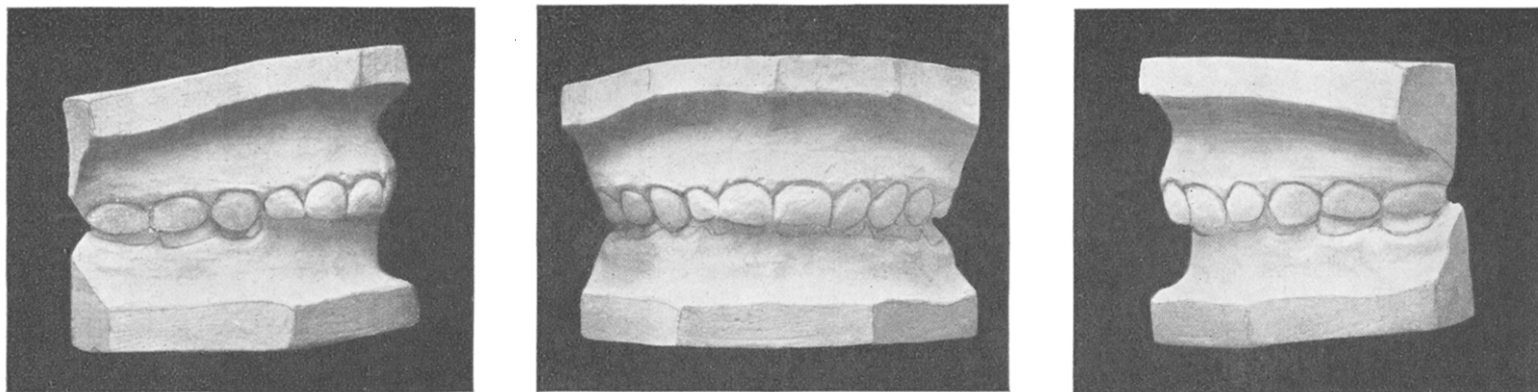


Fig. 3.—R. A., age four years and two months. Class II, Division 2.

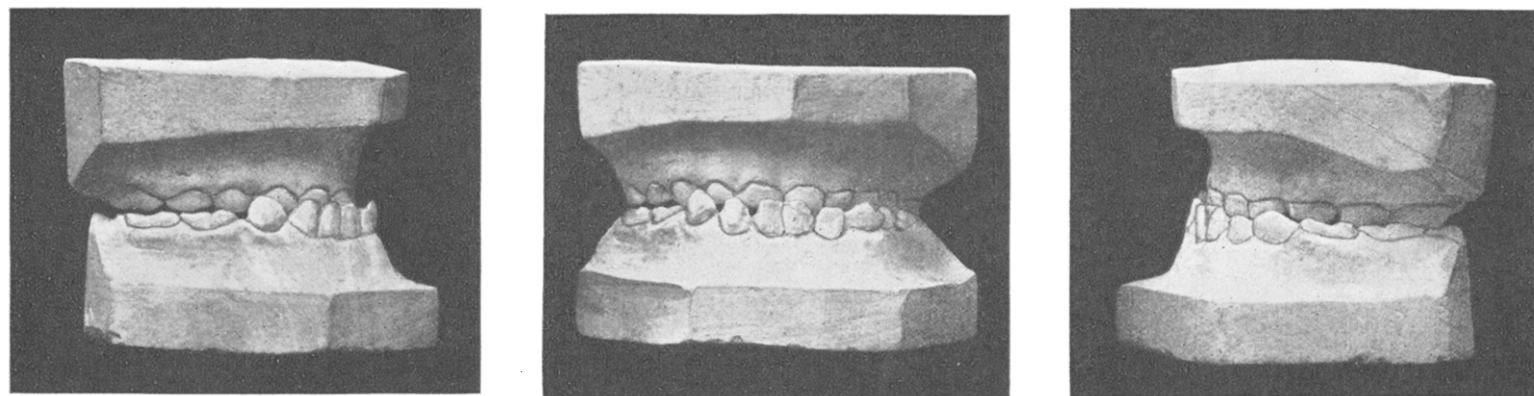


Fig. 4.—S. P., age three years and six months. Class III, Division, with lingual occlusion of all of the upper teeth.

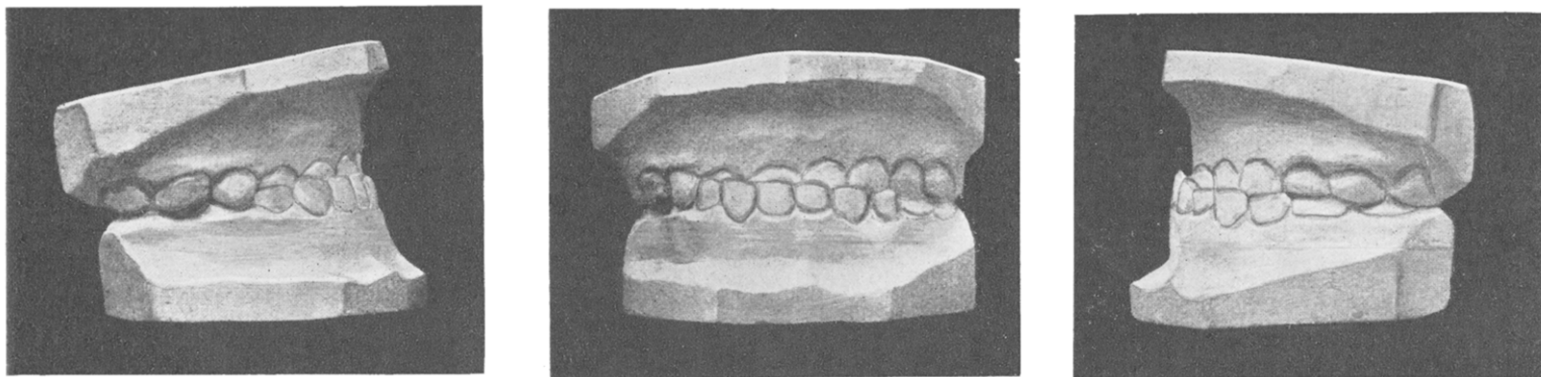


Fig. 5.—G. B., age four years. Class III, Division, with lingual occlusion of the upper front teeth.

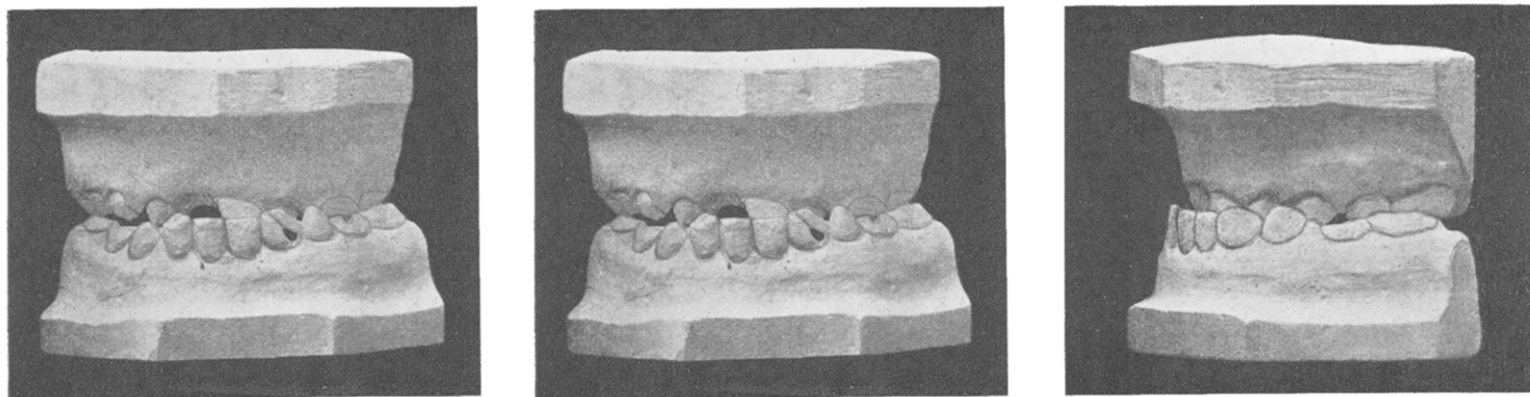


Fig. 6.—B. D. A., age four years and eight months. Class III, Division, with lingual occlusion of the upper front and left posterior teeth.

from 4 to 5 years old; in the third from 5 to 6 years old. In the classes are both males and females.

I am sure that the public kindergartens and elementary schools offer the best field for inspection and study of malocclusion of temporary and permanent teeth.

As you can see from my record book, I examined the mouths of one thousand children: some of them, as I said, sick in the hospital from medical or surgical diseases; some from the best class of citizens belonging to private kindergartens; some belonging to kindergartens of the poorest quarters of the city; and some belonging to kindergartens of the middle-class quarters.

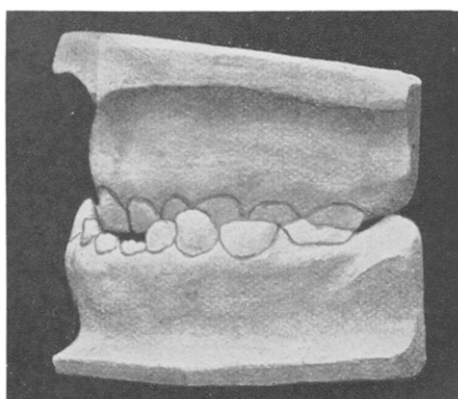
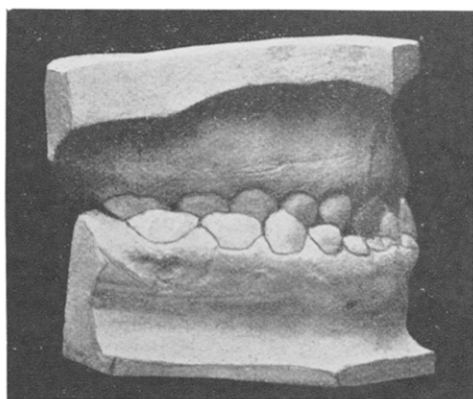
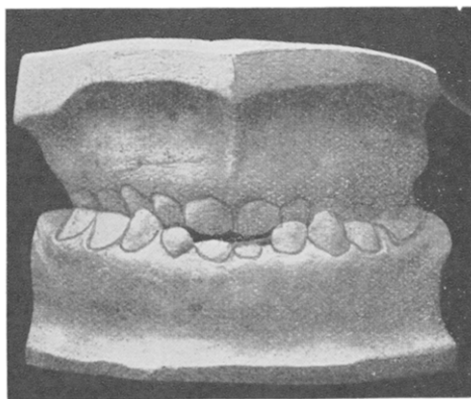


Fig. 7.—P. M., age five years and eight months. Class III, Division, with lingual occlusion of all the upper teeth.

I have considered as belonging to Class I all the irregularities of teeth when the second temporary molars occlude normally mesio-distally: in this class I have included caecs with frenulum labii as the cause of diastema, abnormal lower central diastema, crowding of anterior teeth, vestibular buccal occlusion of lower molars, lingual occlusion of upper molars, labial occlusion of lower anterior teeth, torsion of teeth and all cases of normal mesio-distal occlusion, in which, from thumb or lip sucking, the upper front teeth were in protrusion, and the lower anterior teeth were in retrusion, and

all the cases of infra-occlusion of anterior teeth (mordex apertus), which in general is due to the habit of keeping the tongue between the anterior teeth (Figs. 1, 2 and 8).

I have put in Class II the cases in distal occlusion with divisions and subdivisions (Fig. 3) and in Class III the cases in mesial occlusion with division and subdivision (Figs. 4, 5, 6, 7 and 9).

I have found a good many cases of Class II with anterior teeth neither in labial inclination nor in lingual inclination, that is, they were in proper vertical position.

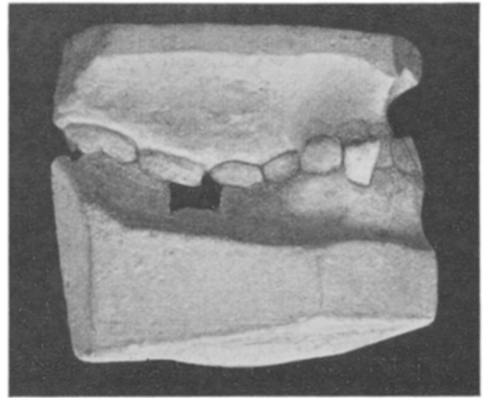
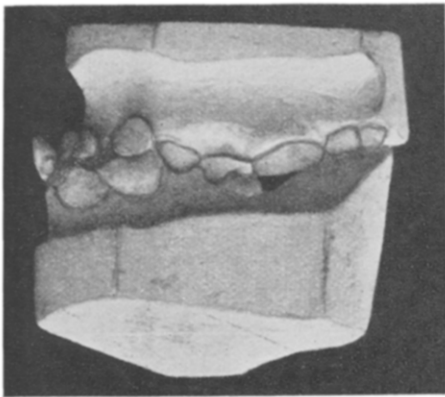
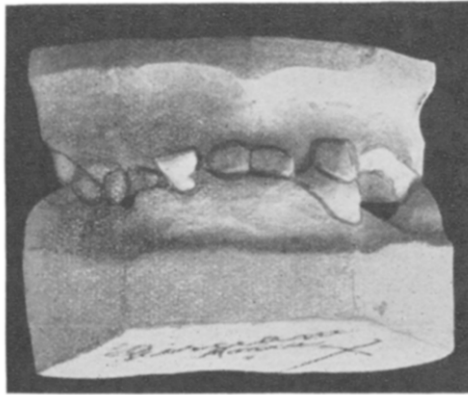


Fig. 8.—S. M., age six years and two months. Class I, with lingual occlusion of the upper anterior teeth, showing that, in spite of the early extraction of the four lower temporary molars, the first permanent molars are in normal mesio-distal relation.

It is unnecessary to point out that I have been very careful in seeing that the little children have occluded their teeth in proper position, as every one of us knows that the majority of them, if asked to close their mouths, usually carry forward the lower jaw, as to simulate Class III, if one does not control the right occlusion by making them swallow, while they occlude, or by palpation of the temporo-mandibular articulation.

I have found 289 cases of malocclusion in 1,000 children between 3 and 6 years old, which means about 30 per 100.

These 289 cases are divided as follows:

Class I.....	222
Class II.....	22
Class II, Division 1.....	11
Class II, Subdivision.....	2
Class II, Division 2.....	1
Class II, Subdivision.....	5
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Total, Class II.....	41
Class III, Division.....	16
Class III, Subdivision.....	10
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Total, Class III.....	26
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Total of all cases of malocclusion.....	289

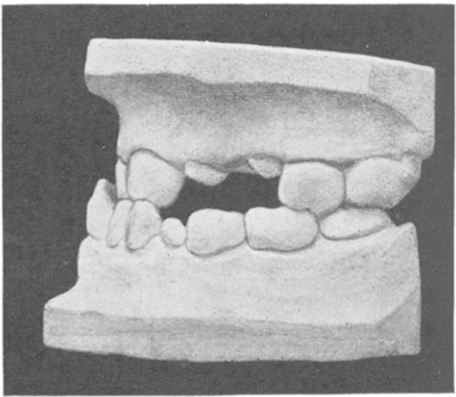
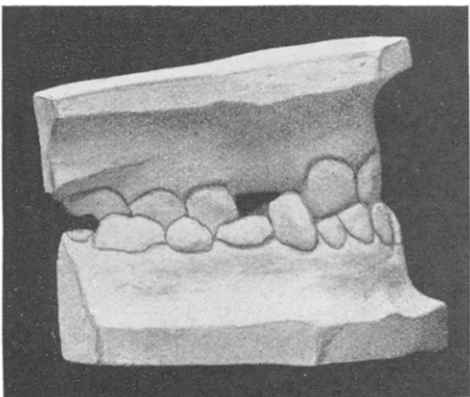
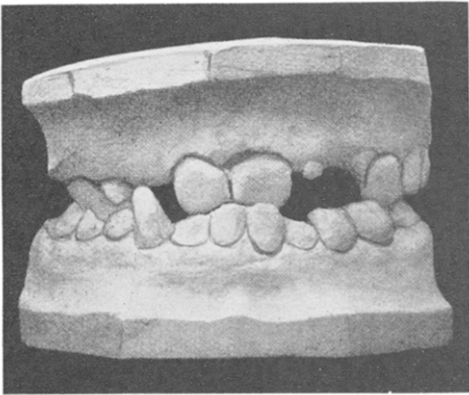


Fig. 9.—C. A., age seven years and eight months. Class III, Division, with lingual occlusion of the upper right posterior teeth, showing that, if the temporary teeth are in malocclusion, the permanent ones also erupt in malocclusion.

I have noticed that in about one-half of the children near six years of age their anterior teeth were not at all spaced, but they were in proximal contact one with the other as in children three years old, so that one might

think that later the permanent ones could not find room enough and would erupt in a crowded position.

Dr. H. Chapman in his work on "Occlusion of the Temporary Teeth and Its Bearing on Class II Cases"* remarked that if "the temporary molars at the age of five years present their distal surfaces in the same place—or very nearly so—it is impossible for the first permanent molars to come into position and occlude normally."

I found that cases with second temporary molars with their distal surfaces in vertical position are numerous, but the malocclusion of the first permanent molars did not always follow in consequence, because in many children of six years, who had already erupted their four first permanent molars and at the same time had the temporary molars all sound and in the position indicated by Dr. Chapman, I noticed that the first permanent molars were in right occlusion, if their breathing was physiological.

The premature loss or extraction of the temporary molars, generally indicated as a cause of malocclusion of permanent first molars, does not always cause such irregularity, because in some cases I noticed that, though the temporary molars had been extracted some time before, the first permanent molars were erupting or erupted in right occlusion, but of course probably these cases would belong in future to Class I for the crowding of the teeth anterior to the permanent molars. (Fig. 8.)

I found 36 cases (3.6 per cent) of abnormal upper frenulum labii and 17 cases (1.7 per cent) with diastema between the two lower central incisors.

From what I have seen in my inspection I conclude that all the irregularities known in the occlusion of the permanent teeth can be found also in the temporary ones, except teeth erupted in the palate or in the alveolar labial region.

The great number of irregularities of temporary teeth (28.9 per cent) confirms the necessity of the early inspection of the mouths of children between 3 and 6 years old with the purpose of regulating their teeth when necessary, which could be done in a short time and would prepare the jaws for receiving in proper position the permanent teeth, avoiding more pronounced irregularities of them, and diminishing the number of cases of malocclusion of permanent teeth.

*The American Orthodontist, October, 1910.